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**ABSTRACT**

An apparatus This is a kit for demonstrating Archimedes' principle and comprises a tub for holding fluid, wherein the tub has sides, and further has having an overflow spout, such that when a fluid level reaches the overflow spout, all additional fluid added to the tub will flow out of the overflow spout; and a stable boat sized to float in the tub without touching the sides of the tub. The kit may further comprise a balance beam which can balance on a top an edge of the tub sides, wherein the balance beam comprises a first end and a second end, wherein the first end has a first means one end of the balance beam has an attachment mechanism for attaching a counter weight, and the second other end has a second means an attachment mechanism for attaching a sample weight such that when the sample weight is attached to the second this end, and the balance beam is balancing on the top edge of the tub, the sample weight will be submerged in the fluid in the tub when the balance beam is balancing on the top edge of the tub sides. There is also provided a method for using this kit to demonstrate Archimedes' principle both for the buoyancy of a floating body, and the buoyancy for objects that do not float.